

## REMARKS

Claims 1-10, 12-15 and 17-30 are pending in the application. By this reply Claims 11 and 16 are canceled. Support for new claims 26-30 may be found in originally filed claims 1, 9, 2-7 and throughout the specification.

### *Claim Rejection 35 U.S.C. § 102*

#### 35 U.S.C. § 102(b)

Claims 1-4, 8, 9, 22, 23 and 25 stand rejected under 35 U.S.C. §102(b) as being anticipated by Ziemer et al. (United States Patent Number 4,554,766), hereinafter *Ziemer*. Applicant respectfully traverses.

The Office's present rejection of Claims 1-4, 8, 9, 22, 23, and 25 cites *Ziemer* for: "See 7 for blower, 20&23 for plenum, 19 for diffuser". The present Action, page 2. This is not the present invention. As the Office is aware,

[t]he examiner "ordinarily should reject each claim on all valid grounds available." *M.P.E.P. §707.07(g)* Further, "[w]here a major technical rejection is proper, it should be stated with a full development of reasons rather than by a mere conclusion coupled with some stereotyped expression." *Id.*

For a prior art reference to anticipate a claim, the reference must disclose each and every element of the claim with sufficient clarity to prove its existence in the prior art. ...Although this disclosure requirement presupposes the knowledge of one skilled in the art of the claimed invention, that presumed knowledge *does not grant a license to read into the prior art reference teachings that are not there.* *Motorola, Inc. v. Interdigital Tech. Corp.*, 121 F.3d 1461, 43 USPQ 2d 1481, 1490 (Fed. Cir. 1997). Emphasis added.

*Ziemer* discloses a (macro-environment) ceiling arrangement for clean rooms. *Ziemer*, Abstract. Nowhere, does *Ziemer* teach a process chamber airflow system as is claimed. Specifically, *Ziemer* teaches a structure for clean rooms including a "permeable capillary structure" (19) and an "intermediate ceiling" (14). *Ziemer*, Abstract, and FIG. 1, respectively. *Ziemer* discloses utilizing a plurality of capillary tubes bundled together to

form a capillary structure (*Ziemer*, Col. 4, lines 41-45). In contrast, to the claimed air diffuser with through holes. Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. *W.L. Gore & Assocs. v. Garlock*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). Further, "anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim." *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)). Emphasis added. *Zeimer* fails to teach the airflow system as is recited in claims 1-4, 8, 9, 22, 23, and 25.

Further, *Ziemer* discloses a two chamber system including a pressure chamber 20 and an air distribution chamber 23. *Ziemer*, Col. 4, line 31, and Col. 5, line 4, respectively. This is not the present invention. As recited in claim 1, a process chamber airflow system includes a blower, a plenum, and an air diffuser for causing the initial flow of air to be reduced. *Ziemer* fails to teach the limitation of a process chamber airflow system including an air diffuser as arranged in claim 1 because the pressure chamber (taken to be the plenum) is not connected to the air diffuser. Instead, the pressure chamber is connected to the intermediate ceiling structure. The previous arguments are generally applicable to the claims rejected under the same rationale. Applicant will not burden the record further. Removal of the pending rejection under 35 U.S.C. §102(b) to Claims 1-4, 8, 9, 22, 23, and 25 is respectfully requested.

Claims 2 is believed to be allowable based on its dependency from Claim 1. Regarding Claim 9, Applicant traverses the Office's rejection under 35 U.S.C. §102(b) over *Zeimer*. *Ziemer* discloses a clean room configuration. *Ziemer* fails to teach the limitation of a generally cubic chamber of a semiconductor production device and therefore fails to anticipate Claim 9. Removal of the pending rejection is respectfully requested.

Regarding Claims 3 and 4, Claim 3 is believed to be allowable based on its dependence from Claim 1. With respect to the pending rejection of Claim 4 under 35 U.S.C. §102(b), Applicant respectfully traverses. The dual chamber system of *Ziemer* is inconsistent with the system recited in Claim 4, due to the existence of the capillary system coupled to a distribution chamber which is separated by an intermediate ceiling 14 (including frame construction 16 and filters 15). *Ziemer*, FIG. 1. *Ziemer* is inconsistent with the present invention because the filters are incorrectly positioned when compared to Claim 4. Further, the pressure chamber (taken to be the plenum) is not connected with the capillary structure which is asserted to be the air diffuser. In contrast, Claim 4 recites a blower/plenum/diffuser system. Removal of the rejection is requested.

Claim 8 is believed to be allowable based on its dependence from Claim 1, which recites an air diffuser including a plurality of apertures therethrough rather than a capillary structure consisting of capillary tubes as disclosed in *Ziemer*. *Ziemer* Col. 4, lines 1-44. Removal of the pending rejection is respectfully requested.

Applicant traverses the pending rejection under 35 U.S.C. §102(b) to Claims 22 and 23. Claim 22, from which Claim 23 depends, includes the recitation of a plenum connected to a process chamber. As discussed above, *Ziemer* fails to disclose the limitations of a an air diffuser, including a plurality of holes, connected to the plenum. Removal of the pending rejection to Claims 22 and 23 is respectfully requested.

Applicant traverses the pending rejection under 35 U.S.C. §102(b) to Claim 21. Claim 21 recites a method for distributing a substantially laminar air flow in a process chamber. As the Office is aware,

To anticipate a claim, a prior art reference must disclose *every limitation* of the claimed invention, either expressly or inherently. *Rapoport v. Dement*, 254 F.2d 1053, 1057, 59 U.S.P.Q.2d 1215 (Fed. Cir. 2001). Emphasis added.

Neither FIG. 1 of the Linderstrom reference, United States Patent Number 3,726,204, (hereinafter, *Linderstrom*), nor anywhere in the *Linderstrom* reference is a method of uniformly dispersing air in a process chamber disclosed expressly or inherently as recited in claim 21. As argued in the immediately proceeding Reply, the preamble of claim 21 limits the method to a process chamber. The preamble should be read as a limitation in as much as the step of providing air flow refers to "the process chamber" thus indicating the recitation of a process chamber in the preamble for antecedent basis.

Further, nowhere does the *Linderstrom* reference disclose disposing an air diffuser with a plurality of uniformly spaced holes having a total cross-sectional area less than the cross-sectional area of the initial area. For argument sake, even if one were to compare the flows between plate 8 (*Linderstrom*, FIG. 1) with the flow through plate 9 (*Linderstrom*, FIG. 1) which seems to disclose a cross-sectional area difference, this would ignore that the initial flow of air is generated in zone 6 (*Linderstrom*, FIG. 1). Alternatively, *Linderstrom* is silent regarding the cross-sectional difference between the airflow in channel 6 (initial cross-section) with that occurring through plate 8 (take to be the cross-sectional area of the diffuser). Removal of the pending rejection under 35 U.S.C. §102(b) is respectfully requested.

### ***Claim Rejection 35 U.S.C. § 103***

#### **35 U.S.C. § 103(a)**

When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to: (A) the claimed invention must be considered as a whole; (B) the references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination; (C) the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and (D) reasonable expectation of success is the standard with which obviousness is determined. *See MPEP* §

2141 and *Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 n.5, 220 USPQ 182, 187 n.5 (Fed. Cir. 1986).

Claims 5 and 10 stand rejected under 35 U.S.C. §103(a) in view of *Ziemer* (United States Patent Number 4,554,766) in view of *Larsson*. The rejection is respectfully traversed. Regarding Claim 10, neither *Ziemer* nor *Larsson* disclose a process chamber for use in microchip production, instead, both are directed to macro-environment systems. Specifically, *Ziemer* teaches that the filter is to be disposed between the a pressure chamber and a distribution chamber. This is not the present invention. As recited in Claim 5, the filter is disposed between the blower and the plenum. On the whole, *Ziemer* teaches that the filters are to be disposed between the pressure chamber 20 and an air distribution chamber 23 (*Ziemer*, FIG. 1). *Larsson* fails to correct the deficiencies in *Ziemer*, because *Larson* teaches that, while an air supply unit 17 (apparently) includes a fan, several filters are to be utilized throughout the system. For example, *Larsson* teaches the use of filters 4a, 4b, 4c on a side of the pressure chamber and mixing chamber above zone B (*Larsson*, Col. 4 line 57 through Col. 5, line 16), and the use of filters in air treatment units 11 and 17. Thus, *Larsson* fails to point out any particular rationale for the asserted location. In fact, one reading *Larsson* on the whole would be directed to utilize a series of filters 4a, 4b, and 4c as a side of the pressure chamber. This is not the present invention. Moreover, upon reading *Larsson* one would be directed to connect the filter/fan via an air supply conduit 16a and 16b for transport into the “pressure chamber” above zone B. Removal of the pending rejection is requested and allowance is earnestly solicited.

Regarding Claim 6, the Office asserts *Zeimer* in view of *Larsson*, further in view of Horneff, United States Patent Number 3,824,909 (hereinafter, *Horneff*) for the proposition of varying the size of the apertures included in the air diffuser. Applicant disagrees. As the Office is aware, [t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art

suggested the desirability of the modification. .... It is impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." *In re Oetiker*, 977 F.2d 1443, 24 USPQ 2d 1443 (Fed. Cir. 1992) *quoting In re Fine*, 837 F.2d 1071, 1075, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988). None of the cited references suggest the desirability of combining the *Zeimer* reference, with the *Larsson* reference with the *Horneff* reference to achieve uniform air distribution through the air diffuser.

Further, *Horneff* fails to note the desirability of including holes of varying sizes in the diffuser. Instead, *Horneff* merely discloses that the "total free or open area of the **perforations** may vary from 1 percent to about 10 percent". *Horneff*, Col 3, lines 40-43. Emphasis added. Thus, not only does the *Horneff* reference fail to provide motivation for varying hole size, but rather *Horneff* is only concerned with the total free open area (of the entirety of the holes) and not the variation between individual holes. Removal of the pending rejection under 35 U.S.C. §103(a) is respectfully requested and allowance solicited.

Claims 7 and 24 are pending rejection under 35 U.S.C. § 103(a). Applicant respectfully disagrees. Office asserts that Chang et al. (United States Patent Number 5,788,567 (hereinafter, *Chang*) for the proposition of including a diffuser formed of static dissipating material. Applicant disagrees. Nowhere, does *Chang* disclose an air diffuser formed of static charge dissipating material. Rather, the cited passage discloses "The apparatus preferably further utilizes an ionizing grid placed between the chassis and the guiding panel, a grounded static-discharge line secured to the guiding panel, or an antistatic solution applied to the guiding panel for preventing buildup of static charges." *Chang*, Col 2, lines 20-24. None of the structures in the cited passage have a diffusing capacity as

claimed. As disclosed in *Chang*, an ionization grid appears to be a web of metal wire having no ability to appreciably reduce the flow of air. Moreover, as disclosed, a guiding panel is merely a duct for redirecting a flow of air and does not function as a diffuser as recited in the claims. *Chang*, FIG. 3. Thus, on the whole *Chang* fails to disclose an air diffuser capable of reducing an initial flow of air and is additionally capable of dissipating static charges. Removal of the pending rejection under 35 U.S.C. § 103(a) is respectfully requested and allowance solicited.

Regarding Claims 12 and 20, the Office rejected the pending claims under 35 U.S.C. § 103(a) noting “Horneff et al. discloses the presence of a range of airflow holes being between 0.125” and 0.5”. See col. 3, lines 36-53.” Applicant respectfully disagrees. *Horneff* discloses “[p]anel hole sizes may vary from **0.04** inch diameter to **about** 0.125 inch diameter. . .”. *Horneff*, Col. 3, lines 40-41. Emphasis added. The asserted diameter range disclosed in *Horneff* is of a much smaller diameter than is recited in Claims 12 and 20. Further, use of the phrase “to about” indicates the patentee’s own skepticism regarding the use of holes having a diameter of approximately 0.125 inch. Thus, the patentee has disclosed a lower range which may not touch on the claimed range. See M.P.E.P. §2144.05. Removal of the pending rejection is respectfully requested.

Regarding the pending rejection under 35 U.S.C. §103(a) to Claims 13-15 and 19, Applicant respectfully traverses. The Office is correct that *Wurst* et al. United States Patent Number 4,963,069 (hereinafter, *Wurst*) fails to disclose a plate having a first and a second side with a plurality of apertures sufficient to cause the first and second sides to experience different pressures. The Office is incorrect that *Linderstrom* corrects the deficiency in *Wurst*. As the Office is aware, “A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention.” M.P.E.P. §2141.02, citing *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). Thus,

reading *Linderstrom* on the whole one would be directed into utilizing a multi-chamber and plate system to correct the deficiency in *Wurst*. Moreover, *Wurst* fails to describe a process chamber, in contrast *Wurst* discloses a container which is “open on the side opposite the fan unit” *Wurst*, Col. 3 lines 22-23 and thus is not a chamber as is recited in the claims. Removal of the pending rejection under 35 U.S.C. § 103(a) is respectfully requested and allowance solicited.

Regarding claims 17 and 20, the arguments proffered with respect to the applicability of the *Horneff* reference to Claims, 12 and 20 are applicable to Claim 20. In addition, as noted previously, *Wurst* fails to teach a chamber. Rather *Wurst* teaches a container including an open side opposite the fan. Removal of the pending rejection under 35 U.S.C. § 103(a) is respectfully requested and allowance solicited.

Regarding Claim 17 the Office asserts *Wurst* in view of *Lindestrom*, further in view of *Horneff*, for the proposition of varying the size of the apertures included in the air diffuser. Applicant disagrees. [T]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. .... It is impermissible to use the claimed invention as an instruction manual or ‘template’ to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that “[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.” *In re Oetiker*, 977 F.2d 1443, 24 USPQ 2d 1443 (Fed. Cir. 1992) quoting *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988). None of the cited references suggest the desirability of combining the *Wurst* reference, with the *Lindestrom* reference with the *Horneff* reference to achieve uniform air distribution through the air diffuser.



Moreover, *Horneff* fails to describe the desirability of including holes of varying the sizes. *Horneff* merely discloses that the “total free or open area of the **perforations** may vary from 1 percent to about 10 percent”. *Horneff*, Col 3, lines 40-43. Emphasis added. Thus, not only does the *Horneff* reference fail to provide motivation for varying hole size, but rather *Horneff* is only concerned with the total free open area (of the entirety of the holes) and not the variation between individual holes. Removal of the pending rejection under 35 U.S.C. § 103(a) is respectfully requested and allowance solicited.

Regarding pending rejection under 35 U.S.C. § 103(a) to Claim 18, the Office asserts *Wurst* in view of *Linderstrom* further in view of *Chang* for the proposition of including a plate formed of static dissipating material. Applicant disagrees. Nowhere, does *Chang* or the other references disclose a plate formed of static charge dissipating material. Rather, the cited passage of *Chang* discloses that: “The apparatus preferably further utilizes an ionizing grid placed between the chassis and the guiding panel, a grounded static-discharge line secured to the guiding panel, or an antistatic solution applied to the guiding panel for preventing buildup of static charges.” *Chang*, Col 2, lines 20-24. None of the structures cited have a diffusing capacity as recited in the present claims. As disclosed in *Chang*, an ionization grid appears to be a web of metal wire having no ability to appreciably reduce the flow of air. Moreover, as disclosed, a guiding panel is merely a duct for redirecting a flow of air and does not function as a plate for causing the sides to experience different pressures as recited in Claim 18. *Chang*, FIG. 3. Thus, on the whole *Chang* fails to disclose a plate for causing the sides to experience different pressures, wherein the plate is additionally capable of dissipating static charges. Removal of the pending rejection under 35 U.S.C. § 103(a) is respectfully requested and allowance solicited.

**CONCLUSION**

In light of the forgoing, reconsideration and allowance of the claims is earnestly solicited.

DATED: August 8, 2003.

Respectfully submitted,  
LSI Logic, Inc.

By



Nathan T. Grebasch  
Reg. No: 48,600

SUITER · WEST PC LLO  
14301 FNB Parkway, Suite 220  
Omaha, NE 68154-5299  
Telephone: (402) 496-0300  
Facsimile: (402) 496-0333